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**From:** Strynar, Mark [Strynar.Mark@epa.gov]  
**Sent:** 4/14/2020 2:30:40 PM  
**To:** Leung, Lam-Wing H [LAM.H.LEUNG-1@chemours.com]  
**Subject:** Re: 3M standards?

Hi Lam,,

Yes I saw it and order them last week thanks. Brian Mader at 3M is the facilitator and he and are are co-chairs for a session at the A&WMA meeting in Durham, NC in September about PFAS.

As of now we are at a stay at home order until the end of the month. May be updated soon.

Cheers,  
Mark

Dr. Mark Strynar  
US EPA/ORD/CEMM  
strynar.mark@epa.gov  
(office) 919-541-3706  
(mobile) Ex. 6 Personal Privacy (PP)

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**From:** Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>  
**Sent:** Tuesday, April 14, 2020 10:26 AM  
**To:** Strynar, Mark <Strynar.Mark@epa.gov>  
**Subject:** 3M standards?

Mark,

I just came across this and think it might be of interest to you but you might have already known about this. Hope all is well with you and your family. We are still under "Stay At Home" order although our labs are running on a limited basis. I should be able to provide you the method for "early eluters" soon.

[https://www.3m.com/3M/en\\_US/pfas-stewardship-us/testing-and-remediation/pfas-analytical-standards-request/](https://www.3m.com/3M/en_US/pfas-stewardship-us/testing-and-remediation/pfas-analytical-standards-request/)

Best,  
Lam

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**From:** Strynar, Mark [mailto:Strynar.Mark@epa.gov]  
**Sent:** Wednesday, April 1, 2020 10:29 AM  
**To:** Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>  
**Subject:** ?checking in and isomers

External email. Confirm links and attachments before opening.

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Hi Lam,

I have been teleworking since March 19th. However, EPA told us we could since March 16th. Ex. 6 Personal Privacy (PP)

Ex. 6 Personal Privacy (PP) I have been staying home and catching up on lots of work.

Find below what I sent to Amy Risen some time ago (see below). I know we can capture all of the PFECAs with our SPE WAX method. The chromatography is the one way I can see separating the PMPA and isomer as the MS/MS has no unique ion. I look forward to seeing your method and results.

The Cl-PFECAs paper was tentatively accepted in Science, but was sent back out to reviewers I think as we changed the structure based on some synthesis papers I was reading. I hope it is final soon. I will let you know when it is.

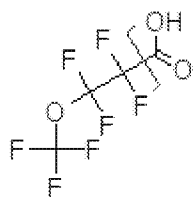
Mark

Evidence:

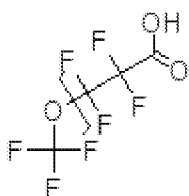
Based on MS/MS experiments alone these are not able to be distinguished from one another. Can be both based on transition 229-185 (loss of CO<sub>2</sub>) and 229-85 being in common to both. Only chromatography could tell these apart in LC-MS/MS or NMR.

PFMOPrA

[M-H]<sup>-</sup>: 228.9



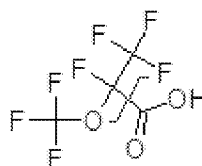
C<sub>3</sub>F<sub>7</sub>O  
184.9



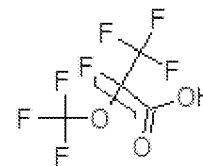
CF<sub>3</sub>O  
84.9

PMPA

[M-H]<sup>-</sup>: 228.9



C<sub>3</sub>F<sub>7</sub>O  
184.9



CF<sub>3</sub>O  
84.9

>> PFMOPrA/PMPA

>> 377-73-1 provided by Chemours?

>> (could also be 13140-29-9)

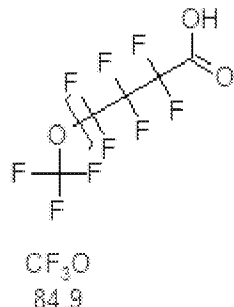
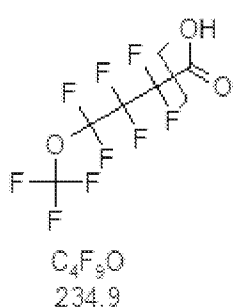
>> 229/185

For these two isomers this transition 279-135 can ONLY come from the PEPA (CAS 267239-61-2) and NOT the PFMOBA CAS 863090-89-5). If the unique transition of 249-85 were used it would be ONLY for the PFMOBA and NOT the PEPA.

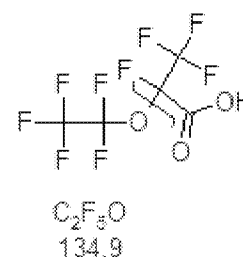
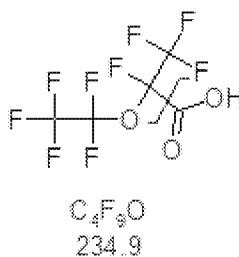
>> PFMOBA/PEPA

>> 863090-89-5 provided by Chemours?  
>> (new MS-MS observations suggest primarily 267239-61-2)  
>> 279/135

PFMOBA  
[M-H]<sup>-</sup>: 278.9



PEPA  
[M-H]<sup>-</sup>: 278.9



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